Dry Cleaning Fact Sheet

Utah Department of Environmental Quality

Promoting a Healthy Environment

How Dry Cleaning Works

Dry cleaning is not really "dry." But it is a way to clean clothes without using water. The process uses a liquid, known as a solvent, to dissolve other substances. The solvent generally is perchloroethylene, or PCE, which is a chlorinated cleaner. It dissolves grease and oil without wetting the fibers. Any dirt that remains is then mechanically removed by the dry cleaning machine.

Typical wastes generated by dry cleaners include spent PCE, bottom residues from solvent distillation, spent filter cartridges, cooked powder residue and PCE contaminated water. Although not every cleaning facility produces hazardous waste, those using solvents are likely to be subject to the federal Resource Conservation and Recovery Act (RCRA) and state requirements covering the generation, transportation and management of hazardous waste. All hazardous wastes must be managed and disposed of legally.

Good Housekeeping

Good housekeeping measures greatly decrease the amount of waste generated. Reduce excess waste production by:

- Keeping tight-fitting lids on containers to prevent chemical loss through evaporation or spillage. Leaving lids on containers also prevents mixing with water, dirt or other materials
- Using spigots and pumps when dispensing new materials and funnels when transferring waste to storage containers to reduce spill.
- Providing secondary containment in areas where PCE and PCE-wastes are stored.
- Storing products in locations to preserve shelf life
- Never mixing different types of waste together. Mixing waste may either make recycling impossible or waste disposal much more expensive
- Eliminating both liquid and vapor leaks by conducting a regular maintenance program. Here's how:
    1. Periodically replace seals on the dryer deodorizer and aeration valves, the door gasket on the button trap and the gasket on the cleaning machine door
    2. Repair holes in air and exhaust ducts
    3. Check hose connections and couplings
    4. Clean lint screens to avoid clogging fans and condensers
    5. Check baffle assembly in cleaning machine
    6. Check air relief valves for proper closure
    7. Monitor for vapor losses with solvent leak detectors
    8. Check to see that your water/solvent separator is working correctly. If there is an unusually large amount of PCE in your collection bucket, it is not working correctly
- Track solvent "mileage," or the pounds of clothes per drum of PCE, to make sure your equipment runs efficiently. If mileage drops, call your equipment supplier for assistance

- Adjust water flow through the condensing coil so entry and exit temperatures are within 100< Fahrenheit of each other

Substitute Raw Materials

Consider replacing raw materials with others that reduce waste amount or toxicity generated. For example, if you use a solvent other than PCE, use one not considered ignitable. You should always consider disposal costs when deciding what raw materials to purchase.

Modify Your Process

If using a wet-to-dry cleaning unit, consider replacing it with a dry-to-dry unit. In wet-to-dry units, you lose solvent in the transfer process. Use refrigerated condensation systems to reduce vapor loss.

Solvent Recycling

Several methods can be used to reclaim PCE from your system. Because PCE is expensive, the more you recover, the more money you save. Recycling methods include:

- Distilling spent PCE in distillation units
- Capturing PCE vapors vented from your machine and passing them through an activated carbon filter. The PCE is then reclaimed by passing steam in reverse through the carbon filter
- Using "sniffers" to draw in PCE vapors from the shop and then using the carbon filter process to reclaim them

Water Recycling

Water that has been in contact with PCE is a hazardous waste. Whenever possible, reuse it in your dry cleaning equipment. It should never be put into a septic system and should not enter a sewer without the permission from your sewer utility.

Personnel Training

Workers need proper training for their health and safety, for the health of your business and to protect the environment. Research shows this is the most critical step in pollution prevention.

Energy and Material Conservation Program

- Try to use the latest technology. New equipment may require less energy to operate.
- Identify all materials are used in the facility. Evaluate how much goes into products and how much is wasted.
- Routinely monitor water and electric meters. Identify usage peaks and valleys during the day and week. Determine if there are activities that consume water and electricity that could be curtailed during non-production hours.

For More Information, Contact:

Division of Solid & Hazardous Waste - (801) 538-6170
Environmental Hotline - 1 (800) 458-0145
Pollution Prevention Coordinator - (801) 536-4477
Small Business Assistance Program - (801) 536-4479